Horticultural Points

LADYBUGS TO DESTROY APHIS

Capture of Bugs in California Is Interesting Industry—Gathered and Sent to Insectory.

(By MRS. A. JOSEPH, California.)

The capturing of ladybugs to kill aphis, is a very interesting industry, in this state. During the early winter months, the miners are always on the lookout for the ladybugs, and they, in turn, notify the State Entomologist, and he has them gathered and sent to the state insectory.

The bugs are gathered up, while they are off guard, and thrown into gunny-sacks. Then, they are transported by pack-train, over the snow, to the station, from which place, they are forwarded by train.

Humbug Canyon is a favorite place for the ladybugs. When the canyon fills up with snow, in the winter, and there is no more food, they foregather in the higher places, where there are great bunches of moss. The warmth of their bodies is conserved, in this way. The little fellows on the outside worm their way inward, and when they get warm, crawl out again, for a breath of fresh air.

In this way, they spend the winter season. Like others, of their kind, the ladybugs sleep through the winter. Then the warmth of spring helps them to shake off the spell, and they are ready for work.

In the insectory, an artificial winter is made, with ice, and, by turning on the cold, it suspends animation in her ladyship.

She will live for months without food, some having been kept, in cold storage, for six months, without food.

The ladybugs are gathered in advance of the melon and cabbage season. The insectory will supply thousands upon orders from southern California, where they grow melons and cabbage.

As no spray will reach the aphis, the lice, which prey on those vines, ladybugs are the only cure.

FIRE BLIGHT OF APPLE TREE

Disease Is Caused by Bacterium and Is Very Contagious—But One Method of Eradication.

(By E. C. STAKMAN, Assistant Plant Pathologist, University Farm, St. Paul, Minn.)

There is a great deal of twig and branch blight of apple trees this year, indicated by the browning of leaves and blackening of twigs. Not only the smaller branches are affected, but also large limbs, and, in some cases, even the trunks.

The disease is caused by a bacterium, and is very contagious. Usually the microbe is carried by insects to the flowers, where it multiplies rapidly and the blossom is blackened and killed, or it may extend along under the bark, killing the twig and often extending to the branches also takes place through tender shoots. For this reason, in orchards where the disease has gained a foothold, nothing should be done to encourage rapid growth. The germs sometimes live through winter in holdover cankers and are the source of new infection.

There is but one method of eradicating the blight from an orchard, that is, cut it out, preferably in late summer or fall. The branches should always be cut some distance back from the diseased parts, and after each limb is cut the pruning knife should be disinfected by dipping into a solution of corrosive sublimate in the proportion of one part of the poison to one thousand parts of water.

PROTECTION FOR THE TREES

Arizona Man Designs Covering, Extending Around Trunk at All Sides to the Crown.

In describing a tree protector, invented by C. I. Helm of Phoenix, Ariz., the Scientific American says:

It is the design of this invention to

Tree Protector.

provide a protector by which the tree can be thoroughly protected, the protector being adapted to extend from the ground to the branches of the tree, and to hold a cylindrical body of earth extending around the tree trunk at all sides to the crown and among the branches, as shown in the accompanying illustration.

IN PLACE OF THE PIE

SOME RECIPES THAT WILL PROVE OF VALUE.

Amber and Chartreuse of Jelly Are Among the Best—How to Prepare Macaroon Rosettes—Cocoanut Cream Also Good.

Amber Jelly—Two tablespoons gelatine, one-half cup boiling water, one-half cup cold water, three cups sweet cider, sugar.

Soak gelatine in the cold water for five minutes. Dissolve in boiling water, add cider and sugar. Stir until dissolved and pour into mold.

Chartreuse of Jelly—Cut out the center of a round sponge cake, leaving the bottom and sides thick enough to hold a quart of jelly. Prepare a lemon, strawberry, orange or wine jelly, and when it is cold and just ready to form turn into the cake and set aside in a cool place or on ice. When ready to serve cover the top with the chilled froth from a cup of double cream and a cup of milk beaten with a whip churn. Flavor the cream with vanilla or wine and add one-fourth cup of confectioner's sugar before whipping.

Macaroon Rosettes.—One tablespoon gelatine, one-quarter cup cold water, three eggs, one-eighth teaspoon salt, one teaspoon vanilla, two cups milk, one-third cup sugar, two-thirds cup pounded macaroons.

Soak gelatine in the cold water five minutes. Make a custard of the yolks of eggs, milk, sugar and salt. Add gelatine to the hot custard and set in a cool place. As it thickens add the beaten whites of the eggs, macaroons and vanilla. Serve on rosettes or in patty shells, and garnish with red jelly put through a ricer.

Cocoanut Cream.—One tablespoon gelatine, one-quarter cup cold water, one-third cup sugar, one teaspoon vanilla, three eggs, two cups milk, one cup cocoanut, pinch of salt.

Beat yolks of eggs and add sugar. When milk is about boiling stir in eggs and sugar and cook until mixture thickens slightly. Remove from fire and add gelatine, which has been soaked in the cold water five minutes. When cool and beginning to set add cocoanut and whites of eggs beaten stiff, and flavoring. Line a mold with sections of orange and pour in the custard. Serve ice cold.

Corn Beef Salad With Cream Dressing.

Select a lean piece of beef and boil it the day before using in enough water to cover it, pouring on the water cold. Do not let it boil hard, but come gradually to the boiling point, then cook slowly until perfectly tender. Pull out the bones, place in a dish, cover with a plate on which place an iron to press the meat and so let it remain until the beef is cold. Cut one pound into half inch pieces. Should there be any fat, remove most of it and make the cream dressing. Two eggs, three tablespoonfuls of vinegar, one tablespoonful of rich cream, salt to taste, a quarter tablespoonful of mustard and a sprinkle of cayenne. Beat the eggs well, add the salt and mustard, then the vinegar and cream. Put the bowl containing this mixture into a basin of boiling water on the stove and stir until about the thickness of rich cream. Cool and when cold mix part with the chopped meat. Just before time to serve have a head of nice lettuce washed and dried in a cloth. Place the larger leaves on a platter, mix the small ones with the meat and over all pour the remainder of the salad dressing.

Caramel Custard.

Cook four tablespoonfuls of sugar until it is a light brown. Put into a baking dish. Beat three eggs with three tablespoonfuls of sugar. Add a cupful and a half of cream or rich milk, and a teaspoonful of vanila. Pour it into the baking dish on top of the caramel. Bake in a pan of water until it is set. Instead of cooking this custard in a big dish, a little of the caramel can be put in each of half a dozen custard cups, and the custard mixture poured over it. Then they can be baked and when they are done turned out on individual dishes. Serve cold.

Fruit Salad.

Beat yolks of four eggs till very thick; beat into them gradually one cup powdered sugar and one-half teaspoonful salt. Beat until sugar is dissolved. Add juice of two lemons and beat again. Peel and slice thin six bananas and four oranges; put in a deep dish a layer of bananas, then of dressing, then of orange and so on, having bananas on top, and pour the remainder of dressing over it. Serve very cold.

Whipped Cream Sauce.

Whip a pint of thick sweet cream, add the beaten whites of two eggs, sweeten to taste; place pudding in center of dish and surround with the sauce; or pile up in center, and surround with molded blanc mange or fruit puddings.

Cold Water Cake.

One and one-half cups sugar, one-fourth cup butter (I use half lard), 2½ cups flour, two eggs, one cup water, two teaspoons of baking powder, sifted with some flour. Flavor to taste and frost if you like. This makes a good-sized loaf.

Chinese Salad.

Equal parts of cold macaroni cut into small bits, minced ham, lobster and cold boiled carrots, chopped. Mix well and add some good mayonnaise dressing, with a few capers.

INTERNATIONAL SUNDAY SCHOOL LESSON

(By E. O. SELLERS, Director of Evening Department, The Moody Bible Institute, Chicago.)

LESSON FOR DECEMBER 21

DIVISION OF THE LAND.

LESSON TEXT—Joshua 14:1-14.

GOLDEN TEXT—"Seek ye first the kingdom of God and his righteousness; and all these things shall be added unto you."—Matt. 6:33.

Following the defeat at Ai we see Joshua building an altar at Ebal (ch. 8) and reading again "all that Moses commanded" (v. 35), to the Israelites and the strangers as well. Then follows an account of his campaigns. A military critic has classed Joshua with the Alexanders, Caesars, Napoleons, Wellingtons and Grants of all ages. His dealing with the Gibeonites and its after effects was one error in his campaign, for he failed to take counsel of Jehovah. At the close of the war (ch. 11) Joshua is ready to divide the long-promised inheritance, chapters 12-21.

I. Those left behind, vv. 1-5. Read carefully Numbers ch. 32 to recall the story of those who, like Lot of old, saw good grazing land and chose it in preference to that on the farther side of Jordan, that possessed by the "children of Anak." Subsequent history reveals the foolishness of their choice, for they were the first to fall before the enemies of Israel when the kingdom was broken up. The Levites (v. 4) were not to have a portion but rather they were to dwell in selected cities with suburban property.

Caleb Not an Israelite.

II. Caleb claims his inheritance, vv. 6-12. Joshua was old and stricken in years (13:1) and now Israel is before him, each of the remaining nine and one-half tribes, to have apportioned unto them a permanent dwelling place after the long years of wilderness wandering, and the more recent campaign of subjugation. Before Joshua casts the lot, however, Caleb recalls the promise Moses had made to him 45 years before (v. 10). From a comparison of v. 6 R. V., Gen. 15:19 and Josh. 15:13 it appears that Caleb was not an Israelite by birth, but nevertheless he claims an inheritance among them, based upon the promise of Moses, "the man of God," because he had "wholly followed the Lord my God" v. 9. His name literally means "a dog"—yet this dog of a Gentile got more than the crumbs that fell from the master's table, Matt. 15:26. Caleb rested upon the sure word of God, and to remember this promise [illegible] Now those events in the valley of Eschel must have stood out in the memory of Caleb and Joshua. They remembered how the companions caused the hearts of the people "to melt" Num. 14:37. That day's work was one of serious results and so shall it be for their imitators of the present day. To see the giants and not, as Caleb, to see God had brought death. In his heart, however, Caleb treasured God's word and now at eighty-five he has not alone been "kept alive," but he is as strong as on that day, when in the prime of his manhood, Moses had sent him forth with the twelve.

Remembered God's Promise.

III. A promise fulfilled vv. 13-15. Joshua at once recognizes the justness and validity of Caleb's claim. He remembered God's promise, Num. 14:24-30; Deut. 1:36-38, therefore he at once grants the request and adds to it his blessing. Hebron, means "joining," "union," "fellowship." Thus we see Caleb entering into all the rights, privileges and blessings of any of the descendants of Jacob. Is this not typical of our privilege in Christ Jesus? John 15:5; 14:20; I. John 1:3. See also Matt. 8:11, 12. The only condition is that of faith in God and in his Word, Gal. 3:7, 26, 29. "Thus faith in the case of Caleb is revealed as the principle which follows fully, waits patiently, asks for new opportunities for its exercise, and gains finally a victory."—G. Campbell Morgan.

The Golden Text. The essential value of this lesson is expressed in these words of our Lord. To seek the kingdom of God and his righteousness first, is the matter of supreme importance and involves following the Lord fully. Frequently, constantly, this means a long postponement of the day of our visible vindication. Yet such postponement is not the result of the capriciousness of God, nor is it delayed beyond the hour necessary for the working out of the plans of Jehovah, in accordance with the very best means. As Caleb waited those 45 years his strength waxed not, and all things needful were supplied. The point is not so much that he at last gained the inheritance, but that during the period of waiting his sustenance and his raiment were provided.

All through the year we have been hearing of promises which were conditional upon loyalty to God and obedience to his will. Today we see a fulfillment of the promise made over and over again that Israel should possess the Promised Land. Dr. J. Wilbur Chapman asked Gen. William Booth for the secret of his success in the Salvation Army and his reply was, "God has had all there was of me."

Caleb's was a vigorous, happy old age; he had not wasted anxious thought on the morrow; he kept alive his interest in the ever-throbbing present.

DIVERSIFICATION ON SOUTHERN FARMS

Everybody Should Join in the Universal Farm Uplift.

FARM METHODS ARE LACKING

Farmers Can Easily Grow Twice Average of Staple Crops—Many Great Industrial Corporations of Country Are Interested.

(By G. H. ALFORD.)

We have between the average and the best in farming in the cotton belt an attainable 1,000 per cent. This difference of 1,000 per cent. against the average farmer is due wholly to conditions which he can easily control with the necessary knowledge. Every corporation and business man interested in the welfare of the country should join forces with the United States department of agriculture, agricultural colleges, experiment stations, state departments of agriculture and other forces and conduct great educational campaigns until the foolish and criminal waste that is going on every year by reason of unscientific methods of farming is a thing of the past.

Our farmers can grow easily twice the average yield of our staple crops. This increase would pour many millions of dollars annually into our industrial channels. Such an addition could not be made without touching every corporation, every banker, every storekeeper, every doctor, every lawyer, every editor and, in fact, every person in the country.

Many of the great industrial corporations of the country have already joined forces with national and state institutions and are helping the farmers to larger production and to larger life, and are thereby contributing to the prosperity and uplift of the whole people. Some people may attribute this to pure selfishness, but from out of that selfishness will evolve a better condition among the farmers, greater comforts in living, and more luxuries of life and better opportunities for the farmers to educate their sons and daughters—thus the presumed selfishness contains within it a resulting philanthropy.

During the last ten years our acre yield increased, but not half as much as the increase of population. Therefore, there is every inducement to do good farming, and to do good farming we must decrease the number of the acres of cotton and increase the number devoted to pastures, forage crops and live stock. We have all heard the old Dutch proverb quoted before, but we cannot quote it [illegible] "No grass, no stock; no stock, no manure; no manure, no crop." Holland is almost entirely a grass and stock country, and lands are worth on an average of $500 per acre. These people have found that they can make more out of land from grasses and live stock than they can by cultivating it.

Unnumbered acres of hill land in the cotton belt are making less than one-third bale of cotton per acre, and at the same time making poverty for those tilling them. The cost of commercial fertilizer applied annually is appalling. The razor-back terraces, covered with weeds, grass and briars, and the circled and short rows prevent the use of labor-saving implements.

Millions of acres of poor hillside land now producing less than one-third bale of cotton per acre should be plowed deep, well fertilized with acid phosphate and some nitrogen and some potash, when needed, and planted in summer and winter legumes for, say, two years, and then sodded in Bermuda grass, lespedeza, crimson and burr clovers. Only by this method and stock raising can our wornout, gullied cotton lands be restored to fertility and only in this way can the people of our southland become prosperous and contented.

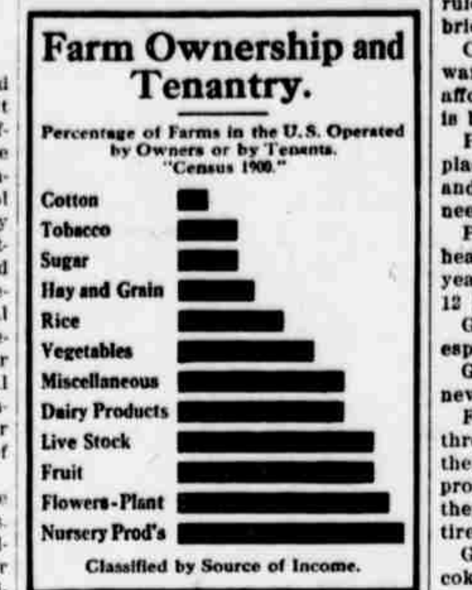
HOW PLANT FOOD CAN BE RETURNED TO SOIL.

1—By Barnyard Manure.
2—By Growing and Feeding Clover, Alfalfa, Etc.
3—By Plowing Under Green Crops.
4—By Plowing Under Cornstalks, Stubble, Straw, Etc.
5—By Applying Commercial Fertilizers.

We have worn out our lands in the quickest possible time by growing cotton and rigidly excluding grasses, clovers and live stock. We have depleted the soil of vegetable matter and it has washed away. This poor soil means a poor people, and the poor people means bad roads, uncomfortable homes, poorly equipped farms, very little education, the credit system, and all that retards civilization.

The last census shows that our population increased 21 per cent. in the preceding decade, while our meat-producing animals decreased more than 10 per cent. We are facing a very serious situation. The meat-producing animals must be grown on the farm. The farmers will not long continue to grow stock at a loss. The conditions must be such that stock raising is profitable or the farmers will sooner or later go out of the business entirely.

The cotton belt has an overwhelming advantage over every other section in live stock raising. We have



great climatic advantages that permit outdoor pasturing and feeding during the whole, or the greater part, of the year. We can obtain large yields of oats, leguminous crops, Johnson and Bermuda grasses, sorghum cane hay and an abundance of corn for making silage, the most economic form of carbohydrates. The keeping of good cattle and the intelligent use of thoroughly good, permanent pastures and grazing crops, and the economic use of the silo and cottonseed meal will make our lands rich, keep millions of dollars at home that are now sent to the north and west, and make our people prosperous.

The calamity howler says: "What about the lack of lime in the soil?" Dr. Tait Butler, probably the best-posted man on southern agriculture, says, in summing up a most excellent editorial on "Lime in Southern Feeds:" "We have shown: (1) That our soils are not deficient in lime as regards the plant food requirements of our crops; (2) that plants grown in the south have as much ash as the same plants grown elsewhere, and that the feed crops of the south, especially the legumes peculiar to the south, contain as high a per cent. of ash as the feed crops of other sections; (3) that typical southern rations are those made up of typical southern feeds and contain more ash than typical northern feeds. The conclusion is, therefore, that while our animals fail to get the mineral matter they need, it is not because this material is deficient in our feeds, but because our animals do not get sufficient of our feeds."

In the cotton belt, live stock farming has been avoided mainly for two reasons: (1) Because all-cotton farming paid better until the soil became poor; (2) because of the cattle tick. Now, millions of acres are too poor to grow cotton profitably, and we can easily eradicate the cattle tick. Since the work of eradicating the tick was inaugurated, nearly 200,000 square miles have been cleaned for all time; this is an area over three times as large as Alabama. The tick injures the hide, reduces the milk flow at least ten per cent., makes it very difficult to fatten cattle, prevents the introduction of good cattle to breed up our native cattle, lowers the price of our cattle on the markets and destroys more than enough cattle every year to pay for its eradication.

The invasion of the boll weevil and the consequent reduction of the profits of cotton growing is forcing many farmers to grow crops which must of necessity be marketed through the agency of live stock, and it is the function of live stock on the farm to furnish a market for the crops that are grown, enabling the farmers to convert grasses, forage crops, cow peas and soy beans, and so on, into higher priced finished products and to return to the soil the plant food taken from it. The greatest need of the farmers of the cotton belt at present is more grass and more live stock, and those who assist in eradicating the cattle tick and in otherwise helping to create conditions that will enable farmers to grow two good animals in the place of one scrub is surely as great a benefactor as those who cause two blades of grass to grow where only one grew before.

Live stock should certainly be given a prominent place in the agricultural development of the cotton belt. Next to having good and intelligent people in a country, good live stock is probably of the most importance.

Place for Mixing Feed.

A good, tight, clean barn floor is a good place to mix the grain intended for the cows, emptying first the light, bulky feeds, such as corn and cob meal or distillers' grains, spreading these out five or six inches thick, pouring on the next lightest, etc. Then begin at one edge, shovel the feed back into a pile a couple of feet to the right or left. Under ordinary conditions, twice turning over and the final shoveling into the bin will afford a uniform mixing.

Avoid Colds.

Look out that the young stock does not crowd in the roosting coops or hen houses and overheat. If they crowd together and get too warm during the night they catch cold as soon as they are let out in the morning and their strength is reduced by the heating.

Profit in Sheep.

There is just as much profit, if not more, in raising sheep as in breeding cattle or swine.

POULTRY FACTS

FOR BETTER POULTRY STOCK

Keeping Birds Healthy and Improving Them Can Be Done by Adoption of Few Systematic Rules.

In raising stock or poultry it should be the air of everyone to keep it healthy and improve it. You can do it very easily by adopting systematic rules. These may be summed up in brief as follows:

Construct your houses good and warm, so as to avoid damp floors and afford a flood of sunshine. Sunshine is better than medicine.

Provide a dusting and scratching place where you can bury the grain and thus induce the fowls to take the needful exercise.

Provide yourself with some good, healthy fowls, never to be over three years old, giving one cock to every 12 hens.

Give plenty of fresh air at all times, especially in summer.

Give plenty of fresh water daily, and never allow the fowls to go thirsty.

Feed them systematically two or three times a day. Scatter the food so they cannot eat it too fast or without proper exercise. Do not feed more than they will eat up clean, or they will get tired of that kind of feed.

Give them a variety of both dry and coked feed. A mixture of cooked meat and vegetables is good for a morning meal.

Give soft feed in the morning and the whole grain at night, except a little wheat and cracked corn placed in the scratching pens to give them exercise during the day.

Above all things, keep the house clean and well ventilated.

Do not crowd too many into one house. If you do, look out for disease.

Keep the house, nests, etc., sprayed with some good disinfectant, in order to keep down the lice and mites.

Wash your roosts and bottom of laying nests, and whitewash once a week in summer and once a week in winter.

Let the old and young have as large a range as possible, the larger the better.

Do not bred too many kinds of fowls at the same time. Better have one breed and understand it.

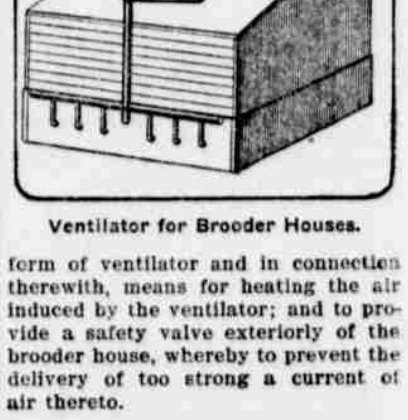
Introduce new blood into your stock every year or so, by either buying a cockerel or a setting of eggs from some reliable breeder.

BROODER HOUSE VENTILATOR

Device Invented by New Jersey Man Prevents the Delivery of Too Strong Current of Air.

The Scientific American, in describing a ventilator for brooder houses, the design of C. W. Brick of Crosswick, N. J., says:

This invention relates particularly to a means for ventilating brooder houses, and provides an improved



Ventilator for Brooder Houses.

form of ventilator and in connection therewith, means for heating the air induced by the ventilator; and to provide a safety valve exteriorly of the brooder house, whereby to prevent the delivery of too strong a current of air thereto.

POULTRY NOTES

Feed plenty of sharp sand or grit with the food.

• • •

Please the consumer and you can raise the price.

• • •

Systematic marketing will overcome overproduction.

• • •

Pekin ducks do not make good sitters—use a chicken hen.

• • •

Good development before beginning to lay is best for the pullet.

• • •

Ducks must have plenty of green food or they will not thrive.

• • •

Impure water will not produce many eggs of any kind, and none that are good.

• • •

Fewer and better birds, and all as much alike as possible should be every poultry keeper's motto.

• • •

You must know that a duck has no crop. The food must be soft because it passes directly into the gizzard.

• • •

Pure white exhibition birds will have their plumage made yellow by constant feeding of corn, though a little corn occasionally will do no harm.